

## SECTION 08114

### STEEL DOORS AND FRAMES

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. [Non-rated] [fire rated] steel doors and frames
- B. [Louvers]

##### 1.2 SUBMITTALS

- A. Submit the following in accordance with the requirements of Section 01300:
  - 1. Catalog data substantiating that products comply with specified requirements.
  - 2. Certifications for door assemblies required to be fire-rated that exceed sizes of tested assemblies, and for each door and frame assembly that has been constructed to conform to design, materials, and construction equivalent to the requirements for labeled construction.
  - 3. Shop drawings for fabrication and installation of steel doors and frames. Include details of each frame type, elevations of door design types, conditions at openings, details of construction, location and installation requirements of finish hardware and reinforcements, and details of joints and connections.

Show anchorage and accessory items.

    - a. Provide schedule of doors and frames using same reference numbers for details and openings as those on the Drawings.
    - b. Indicate coordination of glazing frames and stops with glass and glazing requirements.

##### 1.3 QUALITY ASSURANCE

- A. Provide doors and frames complying with Steel Door Institute "Recommended Specifications: Standard Steel Doors and Frames" (SDI-100) and as herein specified.
- B. Fire-Rated Door Assemblies: Where fire-rated door assemblies are indicated or required, provide fire-rated door and frame assemblies that comply with NFPA 80 "Standard for Fire Doors and Windows", and have been tested, listed, and labeled in accordance with ASTM E 152 "Standard Methods of Fire Tests of Door Assemblies" by a nationally recognized independent testing and inspection agency acceptable to LANL.

##### 1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver hollow metal work cartoned or crated to provide protection from damage during transit and job storage. In addition, provide sealed doors in plastic wrapping.
- B. Inspect hollow metal work upon delivery for damage. Minor damages may be repaired provided finish items are equal in all respects to new work and acceptable to Contract Administrator; otherwise, remove and replace.
- C. Store doors and frames at building site under cover. Place units on minimum 4in. high wood blocking. Do not use non-vented plastic or canvas shelters which could create a humidity chamber. If cardboard wrapper on door becomes wet, remove carton

immediately. Provide 1/4in. space between stacked doors to promote air circulation.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

Steel Doors and Frames, (General):

- A. Amweld/Div. American Welding & Mfg. Co.
- B. Ceco Corp.
- C. Curries Mfg., Inc.
- D. Fenestra Corp.
- E. Steelcraft/Div. American Standard Co.
- F. Trussbilt, Inc.

### 2.2 MATERIALS

- A. Hot-Rolled Steel Sheets and Strip: Commercial quality carbon steel, pickled and oiled, complying with ASTM A 569 and ASTM A 568.
- B. Cold-Rolled Steel Sheets: Commercial quality carbon steel, complying with ASTM A 366 and ASTM A 568.
- C. Supports and Anchors: Fabricate of not less than 18 gage galvanized sheet steel.
- D. Inserts, Bolts and Fasteners: Use manufacturer's standard units, except hot-dip galvanize items that are to be built into exterior walls, complying with ASTM A 153, Class C or D as applicable.
- E. Shop-Applied Paint:  
  
Primer: Rust-inhibitive enamel or paint, either air-drying or baking, suitable as a base for specified finish paints.

### 2.3 FABRICATION, GENERAL

- A. Fabricate steel door and frame units to be rigid, neat in appearance and free from defects, warp or buckle. Wherever practicable, fit and assemble units in manufacturer's plant. Clearly identify work that cannot be permanently factory- assembled before shipment, to assure proper assembly at project site. Comply with requirements as follows:
  - 1. Exterior Doors: SDI-100, Grade III, extra heavy-duty, Model 2, minimum 16-gage faces, insulated.
  - 2. Interior Door: SDI-100, Grade II, heavy-duty, Model 2, minimum 18 gauge faces, fire rated.
- B. Fabricate exposed faces of doors and panels from cold-rolled steel only.
- C. Fabricate frames, concealed stiffeners, reinforcement, edge channels, louvers and moldings from either cold-rolled or hot-rolled steel (at fabricator's option).
- D. Fabricate exterior doors, panels and frames from galvanized sheet steel. Close top and

bottom edges of exterior doors as integral part of door construction or by addition of minimum 16 gage inverted steel channels.

- E. Unless otherwise indicated, provide countersunk flat Phillips heads for exposed screws and bolts.
- F. Prepare doors and frames to receive mortised and concealed finish hardware in accordance with the approved Finish Hardware Schedule and templates provided by hardware supplier. Comply with applicable requirements of ANSI A115 series specifications for door and frame preparation for hardware.
- G. Reinforce hollow metal doors and frames to receive surface-applied hardware. Drilling and tapping for surface-applied finish hardware may be done at project site.
- H. Locate finish hardware as shown on final shop drawings or, if not indicated, in accordance with "Recommended Locations for Builder's Hardware", published by Door and Hardware Institute.
- [I. Install stationary louvers for exterior doors as indicated.]
- J. Provide metal frames with concealed fastenings, unless otherwise indicated. Fabricate frames of minimum 16 gage cold-rolled furniture steel. Fabricate frames with mitered and welded corners.
- K. Door Silencers: Except on weatherstripped frames, drill stops to receive 3 silencers on strike jambs of single door frames and 2 silencers on heads of frames with pairs of doors.
- L. Shop Painting:
  - 1. Clean, treat and paint exposed surfaces of steel door and frame units, including galvanized surfaces.
  - 2. Clean steel surfaces of mill scale, rust, oil, grease, dirt and other foreign materials before application of paint.
  - 3. Apply shop coat of prime paint of even consistency to provide a uniformly finished surface ready to receive finish paint.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. General: Install standard steel doors, frames, and accessories in accordance with final shop drawings and manufacturer's data, and as herein specified.
- B. Placing Frames: Comply with provisions of SDI-105 "Recommended Erection Instructions For Steel Frames", unless otherwise indicated.
  - 1. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is completed, remove temporary braces and spreaders leaving surfaces smooth and undamaged.
  - 2. Install fire-rated frames in accordance with NFPA Std. No. 80.
  - 3. In steel stud partitions, install at least three wall anchors per jamb at hinge and strike levels. In open steel stud partitions, place studs in wall anchor notches and wire tie. In closed steel stud partitions, attach wall anchors to studs with tapping screws.

C. Door Installation:

1. Fit hollow metal doors accurately in frames, within clearances specified in SDI-100.
2. Place fire-rated doors with clearances as specified in NFPA Standard No. 80.

3.2 ADJUST AND CLEAN

- A. Prime Coat Touch-up: Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touch-up of compatible air-drying primer.
- B. Final Adjustments: Check and readjust operating finish hardware items, leaving doors and frames undamaged and in complete and proper operating condition.

END OF SECTION